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Iowa Agriculturist 93.03

Shannon Fesenmeyer
Iowa State University

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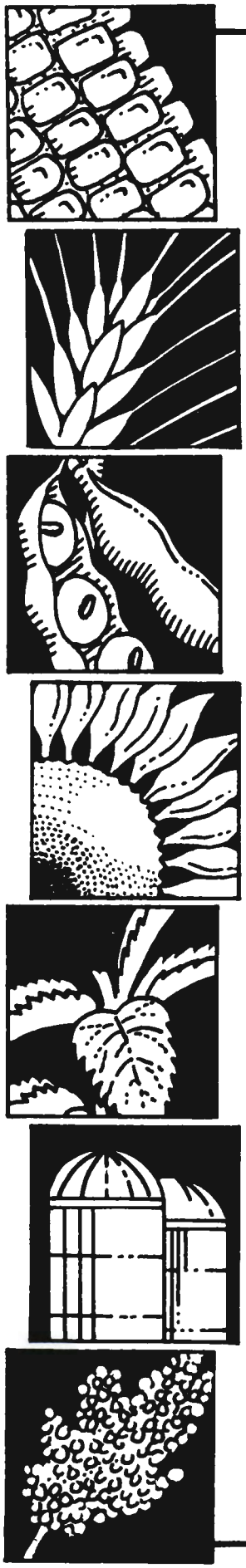
AGRICULTURIST

**Celebrating the Past,
the Present,
and the Future,
at Iowa State University**

VEISHEA 92



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A World of Opportunities Available

Spring is here and that means it's time to honor one of Iowa State's oldest traditions, VEISHEA. VEISHEA means many different things to many different people. As this year's theme suggests, VEISHEA is a time for students and alumni to celebrate the "world of opportunities" ISU has made available to them. It is a time for prospective students and their parents to see what Iowa State has to offer. It is also a time for various campus clubs and organizations to showcase their activities.

To students in the College of Agriculture, VEISHEA means stiff competition between various clubs and organizations. Club members spend many long hours working to make their display the best. This issue of the *Iowa Agriculturist* features the tradition of these agricultural displays. Read and find out where these club displays will be held. You won't want to miss them!

This issue also includes articles about alternative uses of soybeans. Did you know soybeans just aren't for livestock any more? They can make tastey and nutritious treats for you, too. Read and learn more about soybean oil and soynuts.

We have tried to include several interesting articles to keep you updated on current issues affecting the ag industry, as well. But, it will be December before another issue is printed. After many hardships, trials and tribulations, we have produced and distributed the final issue of the year. I'd like to say a BIG thank you to all of the people on staff. Without their hard work and dedication, not a single issue of the magazine would have made it to the printers.

Special thanks to Mike. Mike, the art director, put in the most hours and was the most frustrated. There were nights when I left the office to go to bed, while he worked until the wee hours of the morning. And I can't forget Amy and Ann. They helped me deal with chaos around the office and edit copy until our eyes hurt from too much reading.

My year as editor has come to an end. However, the *Iowa Agriculturist* has been a tradition at ISU since 1908, and next fall the tradition will continue. Amy will take my place. A whole new world of opportunities will be available to her and the other staff members.

Thanks for reading our magazine. I hope you enjoy it.

Shannon Fesenmeyer

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The Iowa Agriculturist sees our magazine as a service to you, the students in the College of Agriculture at Iowa State University.

Soybean Research Produces Healthier Food Products

by Shannon Fesenmeyer

Developing a new variety of soybeans that substantially reduces the fatty acid component of soybean oil is one of the ways Iowa State University researchers are using biotechnology to pioneer new markets for agricultural products.

Walter Fehr, ISU plant breeder, and Earl G. Hammond, ISU food scientist, have applied for three patents on soybean varieties they have discovered. Their award-winning discoveries will help soybean growers satisfy consumer demand for healthier, tastier food products.

"The ISU low palmitic soybean oil will enable soybean producers to better compete internationally and will give consumers a wider choice of cooking oils," said Fehr, in the autumn 1991 *Plant Biotechnology* newsletter.

This new soybean variety is low in palmitic acid, which means it is low in saturated fat. This interests consumers because consuming high levels of fatty acids can increase a person's cholesterol level. Although eating foods made from this new soybean variety won't reduce the total amount of fat in a person's diet, Hammond said, "It will change it to a more nutritious combination of fats."

But inventing agricultural products can take years, said Hammond, who began researching methods to improve soybeans in 1968. He first researched ways to reduce the linolenic acid content of soybeans, which improves the stability and

ISU researchers recently received an R &D 100 Award for their soybean oil. From left to right are ISU food scientist Earl Hammond, President Martin Jischke and plant breeder Walter Fehr.

flavor of soybean products.

After altering the genetic composition of the soybeans and testing them for several years, Hammond said he and Fehr finally made some progress. In 1978, they developed a soybean variety containing about 3.5 percent linolenic acid. Today they have soybean varieties containing less than two percent linolenic acid, which most commodity varieties contain about eight percent.

The linolenic acid content was lowered by removing an enzyme from the soybean seed. The enzyme permits oxygen in the air to enter the oil, and research shows that oxygen creates a flavor problem in soybean oil. Fehr said, "We remove the enzyme so oxygen can't get in and create an off-flavor."

However, reducing various acid levels isn't enough to convince farmers to raise the new varieties. Hammond said the plants also must contain good agronomic characteristics such as disease resistance, good yields and a desired look. "Soybean farmers seem to worry about the appearance of their plants," he said. "If they look too weird, they're embarrassed by them."

Fehr said, "Research never ends. Even though you've achieved something, there's always something better you want to achieve."

As they were researching low linolenic varieties, Hammond said they decided to broaden their goals and see how they could change the content of all the fatty acids present in soybean oil. That's when they became interested in finding ways to reduce the level of palmitic acid.

Despite the number of years it has taken for them to reach the point where they could market their discoveries, Hammond said, "We just happened to have these low palmitic varieties when the market wanted them. We were hailed as the saviors of the soybean market."

The low palmitic soybean gives farmers another way to market their products, said Ralph Christensen, a farmer from Onawa and chairman of the Iowa Soybean Promotion Board. Instead of raising only commodity beans, farmers also can raise beans for human consumption. "The biggest benefit of this research is that it gives us another way to sell our beans," he said. "That relates to more bushels sold, and that's what it's all about."

For their low palmitic acid soybean research, Hammond and Fehr were presented with an R&D 100 Award at a banquet in Chicago on Sept. 19. The award was presented by *Research and Development* magazine to recognize the top 100 product innovations of the year by companies and research institutions. The ISU soybean oil also was on display at the Chicago Museum of Science and Industry during September.

In addition, Hammond will receive the American Oil Chemists' Society's Stephen S. Chang award in May for his work in altering the fatty acid composition of soybeans.

Making soybeans better for the consumer is our primary objective, said Fehr. "We just look at all the ways soybeans can possibly be used and try to figure out a way to genetically change them to

make that possible," he said. "And that's really what biotechnology is...We want to develop improved agricultural products."

However, Fehr said soybean oil will lose its market share if the product isn't continually improved. For example, Puritan oil was made from soybean oil until canola and sunflower oils replaced it with lower saturated fat levels.

"We know we can lose market share if we don't modify our crop to meet consumer demand," said Fehr. "The other crops are going to continue to improve as they use biotechnology, and we have to be able to keep up with that."

The low palmitic soybean oil is comparable to canola oil and is less expensive to buy, said Hammond. "As long as soybean oil maintains the price advantage and is comparable nutritionally to canola, most people will use it."

To help ISU researchers keep an edge on the competition, Pioneer Hi-Bred International Inc., in Des Moines has purchased the commercial rights to the low palmitic acid soybean. Nick Frey, product development manager at Pioneer's Specialty Plant Products Divisions said, "The low palmitic soybean offers us an opportunity to compete with canola oil."

Enough of the low palmitic soybeans will be produced this summer to start test-marketing the soybean oil products, said Frey. About 500 acres will be contracted with farmers in north or north central Iowa who express interest in growing the new variety. Since 400 to 500 pounds of oil can be produced from each acre of soybeans planted, 500 acres should meet the current demand by food companies. Proctor and Gamble already expressed interest in the soybean oil at the September R & D 100 awards ceremony.

"The key to this technology is that it has to be commercialized, and that's what we're trying to do," said Frey.

Fehr said, "One of the nice things in Iowa is that technology transfer is a high priority at ISU and a large number of companies in the state are interested in working with the university to take commercial products out of the inventions that come from research."

However, Frey said large-scale production won't result until yields are increasedand become competitive with varieties farmers now raise. The new varieties yield from zero to 20 percent less than commodity varieties.

During September, the ISU soybean oil was on display at the Chicago Museum of Science and Industry. Photos courtesy of Earl Hammond.

"Yield differences exceeding five percent make it difficult to make it economic," he said.

To compensate for th e additional costs of raising the specialty variety, Pioneer or its agents will pay a premium, said Frey. Farmers raising the new variety will receive 15-20 cents per bushel over commodity bean prices.

Frey said producing the low palmitic soybeans will benefit farmers in the future. "I don't know how many acres of production of how many cents to the bushel this means, but there will be a real market benefit to farmers," he said. "Since agriculture is a world market, it might be a way for U.S. soybean farmers to differentiate themselves from farmers in the other countries where these varieties aren't available."

Potential for selling the new beans exists in the Asian market and the former Soviet Union as people around the world use soybeans for a protein source, said ISPB's Christensen.

The ISPB continues to support research for new types of soybeans and better production through soybean checkoff dollars, said Christensen. When farmers sell their beans, one-half of one percent of the net value is taken out of their check and put into the state checkoff fund.

Fehr said he and Hammond continue to research new ways to market soybeans and make them better for consumers. "Most recently for example, we developed a soybean that doesn't have a beany flavor," he said. Artificial flavorscan be added to the products from this variety, so the beans can be used in food items such as soy milk, soy burgers and tofu.

The ISU researchers have developed other soybean varieties with various fatty acid components that interest oil users. One is a high stearic acid variety, which may require less hydrogenation to produce margarine. Hydrogenated fats make margarine easier to spread, but Hammond said that hydrogenated fatty acids are no better for people than saturated fatty acids. Less hydrogenation will make margarine nutritionally better for consumers.

The other variety contains high-oleic acid, which will be more stable when used for frying. Hammond said oil made from this variety will increase the length of time cooked foods can be stored, and it will allow consumers to use the oil for a longer time before it develops off-flavors.

Hard Times Ahead As Czechs Switch to Capitalism

by Greg Vincent

When most Iowa Staters think of Czechoslovakia they probably think of the Iowa State basketball team and outstanding freshman center, Julius Michalik. However, for several Iowa State University professors, Czechoslovakia means a country that needs help switching from a centrally planned economy to a market economy.

"Starting with the revolution of 1989 they started to open up their political beliefs in their country and their economy," said JohnLawrence, ISU Extension economist. "The U.S. thought it would be good to give them a sample of the U.S. style of capitalism."

Farmers in Czechoslovakia had been told how to farm in the past, saidISU Extension economist Marvin Hayenga. Now they face the problem of making decisions for themselves and many farmers are not experienced enough to make these decisions.

"They had been under a state planning system before," Hayenga said, "and the farmers there produced what the planners had people deliver to them. They had to deliver what the planners told them they had to deliver. Everything was coordinated from inputs all the way up to what was available to consumers and what the prices were at the consumer level."

One problem facing the government in their transitions to private enterprise is how to split up the communist government's assets, he said. One way of doing this is putting the farms back in the possession of the families who owned the ground prior to communist takeover. State workers also may receive land as payment for years of hard work.

"They're looking at where there were workers in various kinds of state and collective enterprises that essentially have sweat equity in this," Hayenga said. Plusall the people in Czechoslavakia above the age of 18 get the equivalent of 1,000 points that can be shares in all the assets that used to be owned by the state."

The way of getting a number of shares in a company is based on an auction basis, he said. Everyone gets the same number of points, but the number of shares one can get from a company could be totally different than another company. People are pooling their points in the form of mutual funds in order to increase their interest in a company.

Marketing agricultural products is a major hurdle facing the producers in Czechoslavakia, said Lawrence. The state owned the grain elevators in the villages and now the processors have monopolies in many of these towns. Going to another processor is not always an option. A farmer can find the best price at another elevator but even if they do, it is quite possible those two processors are communicating and setting the price.

There is also a large amount of distrust the people have in the government. The people often times cannot trust government numbers because of false information, Lawrence said.

"We heard a story of a farm that had 100 cows," he said. "They had to show some improvement throughout the year so they said, 'we have 120' [cows]. They sent that to the regional supervisor, and the regional supervisor sent it up to the next level and said there was 140. He sent it to the next guy and said 160. The minister of agriculture said, 'Good lets export 100 and keep 60 for domestic consumption'. They don't trust the government numbers like our hogs and pigs report."

Price information also is very difficult to obtain for Czechoslovakian farmers, Lawrence said. The people there can look at a newspaper from the U.S. and find out yesterday's price of wheat in Chicago, and they may never know the price of Czechoslovakian wheat from last month.

Farmers have a hard time finding a contract to deliver their goods and they are not even assured that they will get paid. The size of the farm often has a role in whether or not the farmer can deliver what he produces and at what price it is received, Lawrence said. There is a concern that the farmer who has 1,000 hectares of wheat will get better price than a farmer with 20 hectares and only 1,000 bushels of wheat.

As Czechoslavakia moves toward true capitalism, the people will face many hard times. "There is a lot of uncertainty," said Hayenga. "Many cases in a socialist economy everyone had a job whether they were necessary or not."

Interviews Are Important Step in Job Search

by Carrie Jorgensen

What is as unpredictable as the weather? An interview.

If you are job hunting, the interview may be the most important step in the search process. It gives you the opportunity to find out about the company and the potential employer has the chance to see if you are employee material.

Roger Bruene, Iowa State University agricultural placement officer, said a good resume will get you an interview but won't guarantee a job offer.

"Interviews will get you job offers; resumes don't," Bruene said.

Your appearance for an interview is almost as important as the interview itself. The safest route in determining what to wear is to be conservative.

For men and women, dark colors are recommended. Men should wear a well-tailored suit with a conservative shirt and tie. They should also have well-polished dark shoes. Women should wear a suit or a conservative dress, and well-polished shoes with a moderate heel.

Accessories for women should also be conservative and not flashy. Men should not wear earrings. Perfume and cologne should be applied moderately because intense fumes can destroy an interview. Both men and women should have conservative hairstyles.

Since your hands may be in sight of the interviewer most of the time, make sure they are attractive. Fingernails should be clean and trimmed. Long fingernails may give the impression that you have not worked for awhile.

It is very important to be prepared for the interview. You may not only have to answer questions about yourself, but also about the company. Research the company thoroughly by reading the annual report, reading the company literature in the placement office and making phone calls to present employees.

During the interview, you should avoid answers you think the interviewer wants to hear. That kind of answer will not distinguish you from the rest of the interviewees. When asked questions such as, "What is your biggest weakness?," find a way to answer it positively.

After the interview, thank the interviewer with a firm handshake. You should write a thank-you letter and maybe write a letter later if you do not hear from the company. You also may want to phone to see how the selection process is coming along.

Some interviewers say it takes only 20 seconds for an interviewer to form an opinion of you. The old addage, "First impressions are the most important," holds true.

Interview do's:

- Dress appropriately.
- Bring a copy of your resume.
- Research the organization thoroughly.
- Be positive, confident and interested.
- Ask questions.
- Listen carefully.
- Arrive five to ten minutes early.
- Maintain good eye contact.
- Let the interviewer start the interview and set the pace.
- Ask when you will hear from the company.

Interview don't's:

- Have gum or candy in your mouth.
- Show nervousness by cracking knuckles, drumming fingers or jingling change.
- Adjust clothes or hair.
- Overuse "sir" or "madam" or the interviewer's name.
- Use slang.
- Criticize your past or present employers.
- Ask about salary until later interviews.
- Seem desperate.
- Oversell yourself.

A variety of pamphlets and brochures about preparing for interviews is available at the ag placement office.

And practice, practice, practice! The College of Agriculture has mock interviews and interviewing workshops in the fall. You also can try role playing with your friends or roommates, having one interview you and another critique you.

Sources for this story include:

"Interviewing: The Inside Story From a College Recruiter," by John L. LaFerre, *CPC Annual*, 1991-92.

"Getting an Interviewer's Attention," by Douglas B. Richardson, *Managing Your Career*, Spring 1992.

"Guide to the Interview"

"Traits on Which You Will Be Judged"

"Some Questions Which May Be Asked During the Employment Interview"

This information is from the ag placement office handouts, "Interviewing" and "Interview Tips."

V EISHEA Celebrates 71st Anniversary

by Rhonda Franck

VEISHEA used to happen three times a year. Well, sort of. Before 1922, three separate celebrations were held at Iowa State for different departments and a dismissal from academic classes accompanied all of them.

After combining the different activities in 1922, the celebration has evolved into the largest student-run college activity in the country. The 1992 VEISHEA planned for May 1 and 2, will mark the 71st anniversary of the event.

VEISHEA was the idea of Wallace F. McKee, an agricultural student who graduated in 1922. McKee, who was president of both Block and Bridle and the Agriculture Council, proposed to combine the Ag Carnival, the Home Economics May Fete and the Engineering St. Patrick's Day celebration.

Frank D. Paine, a professor in electrical engineering, named the new celebration in a contest. The letters stand for the first letters of Iowa State's original departments: Veterinary Medicine, Engineering, Industrial Science, Home Economics and Agriculuture.

The first VEISHEA included a parade, departmental open

house displays, and an evening show, as well as the tapping of several honoraries.

Many activities unheard of today were established in VEISHEA's first decade. The schedule for the event was written in chalk in front of Central Hall (now known as Beardshear Hall). Freshmen students were allowed to burn their (mandatory) beanie hats at the festival's bonfire.

VEISHEA Central Committees often gave gifts to the college, some that have turned into university landmarks. Swans arrived at Lake Laverne during opening ceromonies in 1935.

The swans' names, Lancelot and Elaine, were chosen in a college-wide contest. Swans bearing these names still swim on the lake today.

A Queen of Queens was selected at VEISHEA for 33 years, beginning in 1938. The first contest were between the Veterinary Queen, Engineer Lady, Bomb Beauties and other queens on campus. In 1945, comedian Bob Hope was given the honor of selecting the winning queen. Hope was sent pictures of the finalists to pick a winner. In 1947, Hope was assisted by Bing Crosby. The first queen candidates were presented at opening ceremonies after a procession on Lake Laverne in gondolas with singing gondloiers.

The evening entertainment was found at the "Nite Show." The production, held in State Gym and later the Armory, was written, acted, directed and produced by students.

Because of poor seating in the Armory, another Iowa State tradition was born. The 1939 Central Committee decided to hold the event where there was unlimited seating: the football field. The change was marked by a new name, "Stars Over VEISHEA," and was held on Clyde Williams Field, located west of Friley Hall. Stars Over VEISHEA (SOV) fought the always-threatening rains until 1959 when it was moved indoors. It also marked the move to Broadway productions, instead of a student created event.

An effort was made to stop the rains that often threaten VEISHEA activities. In 1949, the Central Committee decided to "appease the gods" by running a torch from Des Moines to Ames. The torch was relayed to central campus in the "VEISHEAthon" where a perpetual torch was lit that burned day and night throughout the festival.

Many people have lit the torch to kick off the VEISHEA celebration. In 1950, President Harry Truman lit the torch in Ottumwa (where his train made a stop.) Other celebrities that have lit the torch have included: movie director Cecil B. DeMille, 1952; Vice-president Lyndon Johnson (lit in Washington, D.C.), 1963; Chief Justice Earl Warren (lit in Washington, D.C.), 1964; astronaunt Allan Shephard (lit at NASA in Houston), 1966; John Wayne (lit in California), 1967; a secretary-general of the United Nations, several Iowa governors and legislative representatives, as well as university presidents and professors.

Other famous people have been involved in the celebrations. Cecil B. DeMille not only lit the torch in 1952 but spent the weekend at ISU. He spoke from the steps of Beardshear Hall during the opening ceremonies. Ronald Reagan was a speaker and grand marshall at the 1958 VEISHEA.

Music has also played an important role in the VEISHEA festivities. Musical guests have included: Count Basie and His Orchestra, 1948, 1959; Jimmy Dorsey and His Orchestra, 1950; Duke Ellington and His Band, 1952; Kingston Trio, 1965; Peter, Paul and Mary, 1968; Dianna Ross and the

imposed by World War II.

During the Vietnam War, VEISHEA was filled with tension. The shootings at Kent State University occurred two days prior to the 1970 Iowa State celebration. The Central Committee changed its program to include open forum discussion, added a "March of Concern" to its parade and banned weapons from the parade.

VEISHEA at Iowa State holds a strong history and the planned 1992 celebration will continue the tradition. Thomas Sutherland has agreed to be grand marshall for the 1992 celebration.

Supremes, 1969; Jose Felicano, 1970; Sonny and Cher, 1973; Billy Joel, 1979; and The Who, 1980.

In 1978, the "Battle of the Bands" was started and continues to provide competition for local groups throughout the weekend.

VEISHEA has not gone without difficult times, with most coming during periods when the country was engaged in war. The parade was canceled in 1943 and 1944, and it was replaced with a Navy review in 1945. Displays were also limited due to the restrictions

Sutherland, a recently freed hostage from Lebanon, received his master's degree from ISU.

From orchestras to The Who, from beanie burning to peace marchs, VEISHEA means a great weekend full of Iowa State pride and tradition.

VEISHEA history has been preserved in a scrapbook compiled by Chris Bertelson. Compiled in 1982, *VEISHEA The First Sixty Years* gives VEISHEA accounts from *The Bomb* and *The Daily*, as well as reminiscences from VEISHEA Central Committee members. The above story contains historical information from this publication.

Source List: *VEISHEA The First Sixty Years*, 1982, Chris Bertelson.

Ag Displays: A World of Opportunity

by Rhonda Franck

An ice cream parlor, a petting zoo and a jungle of plants are just a few of the traditional College of Agriculture club displays. The 1992 VEISHEA "A World of Opportunity" celebration is scheduled for May 1 and 2 with 24 agricultural organizations planning to have displays.

"Generally clubs will incorporate their activities throughout the year into a display to publicize their involvement in the university and the agriculutural industry," said Amy Church, co-coordinator of displays for the College of Agriculture and Veterinary Medicine.

"Our focus is to get clubs involved. VEISHEA is good public relations because of the students and visitors who come to campus," she adds. Church and co-coordinator Allison Hopkey, works to develop ideas with clubs that have decided to participate.

Several displays include features that are prepared months in advance. For example, the Horticulture Club has been thinking about VEISHEA since January. Horticulture adviser Dr. Wayne Hefley said the club started around January 1 planting seeds and caring for plants that are sold in May.

The Dairy Science Club has been busy making ice cream. "The club makes ice cream in the Dairy Industry building during the last week in April," said Loren Wille, senior club member.

Competition among the displays results in a friendly rivalry among the clubs. "We do like to recognize those clubs that do an exceptional job on their displays," said Church. Displays are judged by a three-member panel that consists of a high school student, an ISU agriculture student and an ISU agriculture professor.

"It's good, honest competition that draws a level of ingenuity and creativity that no other project does," Hefley said.

Clubs can win awards in the divisions of most educational, most creative and most inspirational displays. Awards are given in each area and an overall winner of the College of Agriculture is selected. Winners in each category and the overall winner are eligible for the Sweepstakes competition that includes entries from all the colleges in the university.

"It brings the clubs prestige when you win the overall college award," said Wille, who was co-chair of the Dairy Science Club's winning 1991 display.

Horticulture Club, Block and Bridle and Dairy Science Club have received recent award honors, but there are no sure winners in the College of Agriculture. This year several new clubs have entered displays. The National Agriculture Marketing Association (NAMA) has expanded on cow-chip bingo. They will present Billy Bingo Extravaganza for the first time this year.

"With a combination of both new and old organizations, the College of Agriculture should be filled with creative displays," said Church.

1. Agriculture Business- The display is located on the first floor of Heady Hall. It includes information about the club and leadership skills it provides to its members.

2. Agriculture Council- The Ag Council display will be located outside Curtiss Hall on the northwest side of the building. It will show the opportunities available in agriculture and sell College of Agriculture t-shirts and folders.

3. Agriculture Systems Technology- A display containing tractors will be located outside Davidson Hall with an indoor display featuring the club and its graduates.

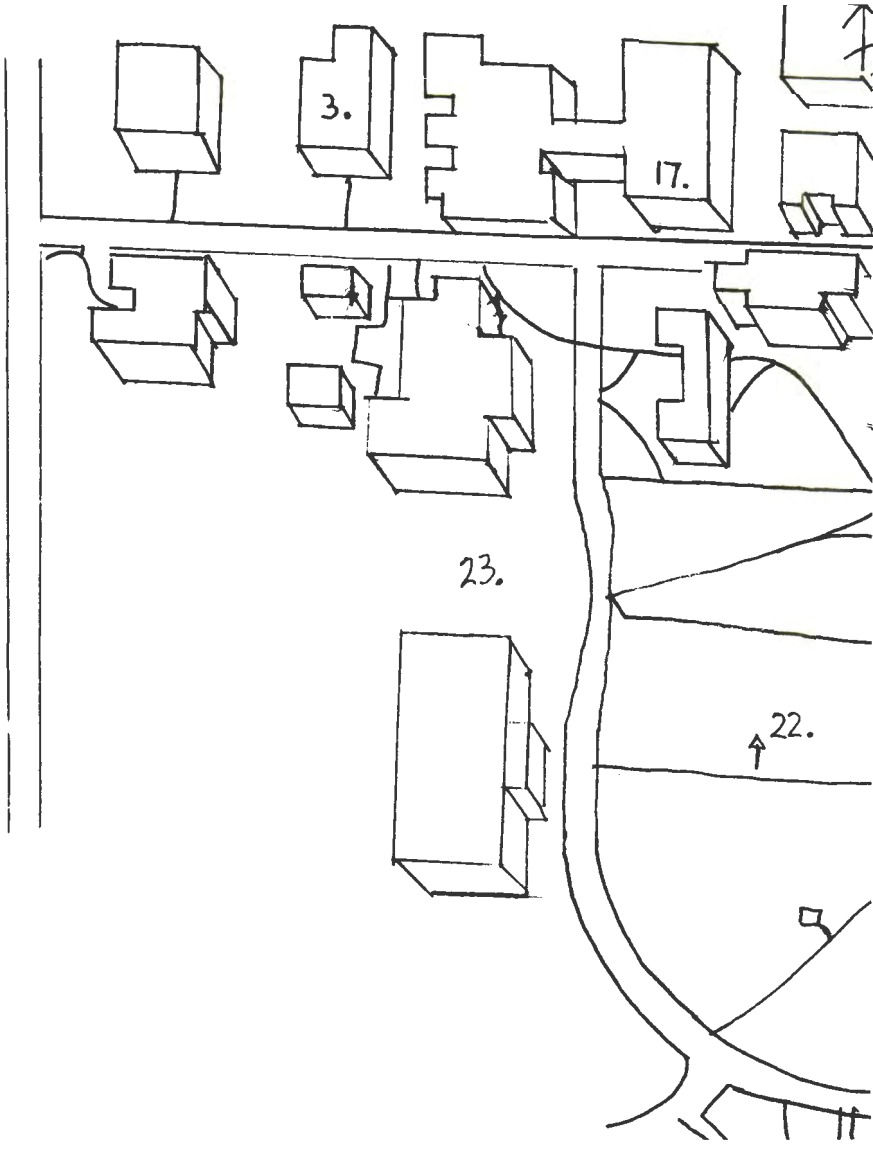
4. Agronomy - A display explaining what agronomists study will be located between the Hub and Beardshear Hall. The club also will be selling popcorn.

5. Alpha Zeta- Alpha Zeta, an agriculture honorary, will be located on the ground floor of Curtiss Hall. Members will be giving tours of the College of Agriculture.

6. Association of Avian Veterinarians- This display will include juvenile parrots and bluebirds, as well as a videotape. It will be located in the hallway outside 32 Veterinary Medicine Center.

7. Block and Bridle- The B&B display will be located in the Livestock Pavilion. It will center on technological advancements, evaluated products and educational opportunities around the world. A feature on grand marshall Thomas Sutherland, who received his master's degree in animal science, also will be displayed.

8. Collegiate 4-H-The 4-H display will be on the ground floor of Curtiss Hall. It will show opportunities available through the organization.

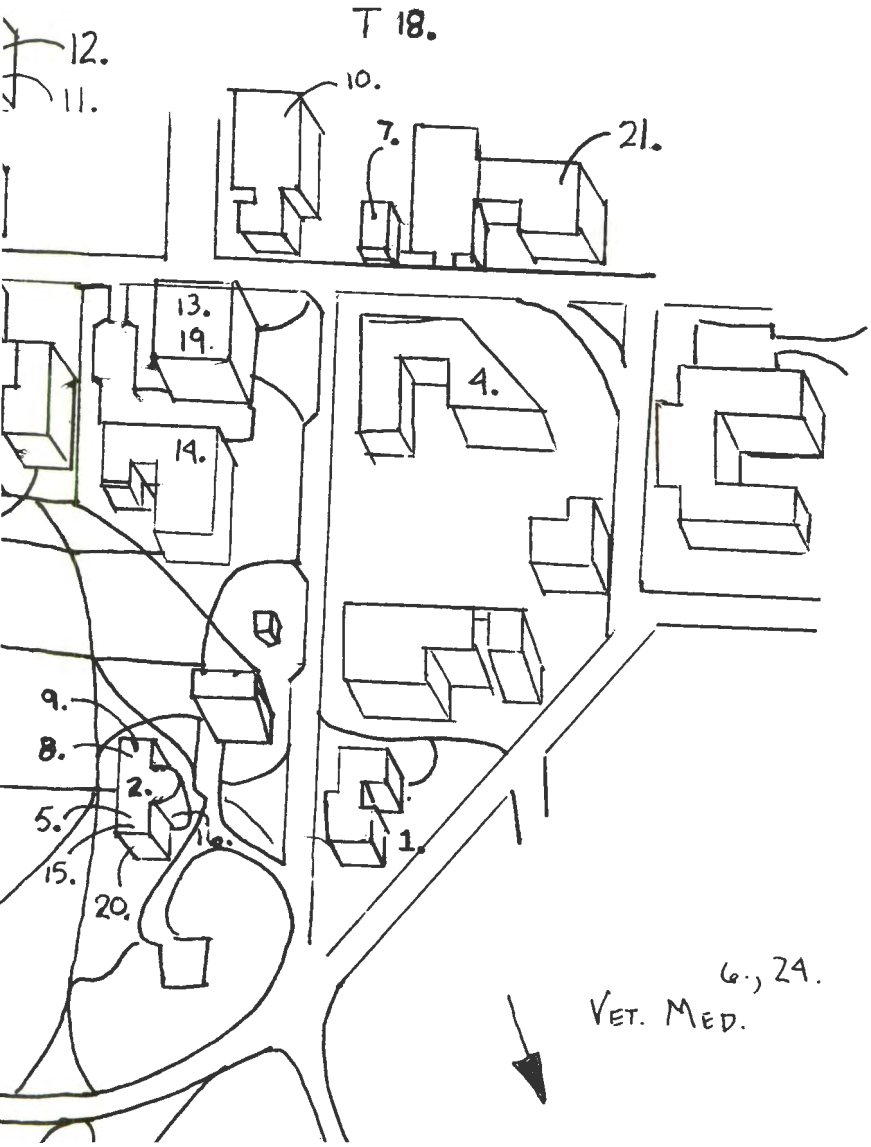


9. Collegiate Farm Bureau- This display will include information aboutthe newly formed club's activities. It also will highlight members who traveled to Washington, D.C. to visit the nation's legislative branch.

10. Dairy Science- The Dairy Science Club will have a display on dairying around the world, as well as information about the club in the foyer between Lusch Auditorium and Kildee Hall. Chocolate and vanilla ice cream will be sold in Lusch Auditorium. In addition, a petting barn containing goats will be located outside on the west side of Lusch Auditorium.

11. Entomology- This display will be located in the first floor lobby of Science II. It will center on careers in entomology from the amateur to the professional.

12. Fisheries and Wildlife Biology-A display on the different biomes of the world including desert, prairie, rain forest and temperate forest will be in 132 Science II. The club will look at what the world would be like if these areas were destroyed.



13. Forestry- The display located in 231 Bessey Hall will show forestry activites at Iowa State. The club also will be giving away seedlings.

14. Horticulture- The display will be located throughout the Horticulture building with specific sites in the lobby, Room 38, the basement and the greenhouses. It will show the world of opportunity in your own back yard. There will be various plant displays. Club members also will be selling petunias, mums, impatients, geraniuims and garden herbs.

15. International Agriculture- The International Ag display will be on the ground floor of Curtiss Hall. It will highlight recent exchanges with Czechoslavkia and the former Soviet Union.

16. National Agriculture Marketing Association- NAMA will hold its first "Billy Bingo Extravaganza" in the Curtiss parking lot. Three goats will be placed on a grid, and the person(s) selecting the square where the goat places it's fertilizer will win the prize. The first prize will be $500, second prize will be $250 and third prize will be $125. The contest will be held on Saturday, May 2 at noon.

17. Omega Tau Sigma- OTS, a veterinary fraternity, will be located on the south side of the Physics building. It will have a petting zoo with chicks, bunnies, lambs, calves, pigs, puppies and kittens. There also will be an informational display about animals.

18. Pre-Veterinary Medicine - This display is located in the Northeast corner of the horsebarn. Pigs, goats, dairy calfs, dogs and cats are among the animals in the club's petting zoo. Information on the Pre-Vet Club also will be available.

19. Plant Pathology- In 327 Bessey Hall, the Plant Pathology Graduate Student Organization will be displaying the department's ongoing research.

20. Public Service and Administration- A display located on the first floor of Curtiss Hall will promote and advertise the PSA club.

21. Seed Science- Promoting seed science career opportunities and displaying current research will make up the Seed Science Club's display. Located in the Seed Science Center, the club also will give away popcorn.

22. Sigma Alpha- This professional agriculture sorority's display will be located north of the east/west sidewalk on central campus. It will promote opportunities for women in agriculture.

23. Soil and Water Conservation Society- Located between Beardshear and the Hub, this club's display will help educate people about conservation and show how people can become involved.

24. Student Chapter of American Veterinary Medicine Association- SCAVMA will be showing many aspects of veterinary medicine in 32 Veterinary Medicine Center. There will be a petting zoo with wild and domestic animals.

Plowing Ground for the GATT

by Kathleen Glenn-Lewin

The time is early spring 1992. Specifically, it's Monday morning, March 30. Most farmers in central Iowa are beginning week two of plowing and working down last year's cornstalks. They're applying fertilizer in the fields, preparing to apply herbicides, and readying the machinery to begin planting in mid-April. Tonight, like most nights, they'll pray for a good growing season and strong markets once the harvest is in.

In the nation's capital at 9 a.m. on this day, five economists from Iowa State University have just stepped before a meeting of the U.S. House and Senate agriculture committees. They've come to describe, in detail, how the nation's farmers and agribusinesses could benefit from a proposal to resuscitate the General Agreement on Tariffs and Trade. Better known as the GATT, this international agreement provides the rules by which most countries trade most of the world's goods and services.

Already a copy of the ISU text has gone to the White House; President Bush's staff earlier made it clear they wanted it at the same time the report went to Congress, not a minute later. Tomorrow the ISU crew will appear before representatives of the national commodity groups, officials of the U.S. Department of Agriculture, and members of the Office of the U.S. Trade Representative.

As the nation's farmers ready their fields, these economists are preparing the ground for a decision that will affect national farming patterns and marketing opportunities throughout the 1990s.

But hold on there, those of you who are aware of the GATT might be saying at this point. (Raise your hands; we know you're out there.) Didn't those negotiations on international trade die more than a year ago? Wasn't it because the United States and the European Community couldn't work past their differences regarding governmental safety nets for farmers? So why talk about the GATT now?

Setting the Rules for Trade

"GATT negotiators have met every five or six years since World War II," says Dermot Hayes, one of the ISU economists who made the recent fact-presenting trip to Washington, D.C.," and it has been incredibly successful in reducing the barriers to free and open trade that each country imposes to protect its own products. And the world has been a more prosperous place because of that."

Currently, 107 member nations work through the GATT to overcome differences and promote world trade in 15 sectors. These include manufactured goods such as textiles, services such as banking, and intellectual property such as patents. Agricultural trade is one sector, accounting for just 11 percent of world commerce.

"In previous rounds," Hayes says, "agriculture was never really dealt with, other than some general rules. So because it was ignored, barriers to open trade in agricultural markets became much worse." Nations have used tariffs to limit imports from other countries, as well as subsidies to help their own producers be competitive in other countries' markets. In each case, the purpose is to give home products the edge over others.

The current round of GATT negotiations, known as the Uruguay round for the location of opening talks in 1986, became a battling ground over the agriculture issue. When talks collapsed in December 1990, agriculture stood out as the major villain in the lack of a new agreement. Without agreement in all sectors, none could be adopted.

It's not as though progress wasn't made during those four years. Hayes summarizes the action: "Initially the United States asked all countries to convert their agricultural supports into tariffs, and then ultimately to phase out all tariffs. That was the initial U.S. position. The initial response of the European

This cargo probably is subject to terms of the General Agreement on Tariffs and Trade. GATT has provided the rules for most countries trade since WWII . Photos courtesy of CARD.

Community was one of horror.

"There's a feeling here in the States that because we have a reasonably good farm structure, U.S. farmers are the most competitive in the world. The free-trade system helps those who are the most competitive," says Hayes.

In other parts of the world, notably the European Community, Japan, and South Korea, agriculture and rural life are more protected; small farms and small communities are supported by the government, which provides numerous subsidies, and by the people, who willingly pay more for their food than do Americans.

Ag economists at CARD use a computer-based modeling system to explore likely effects of ag policy.

Another block of nations—known as the Cairns group and composed of Canada, Australia, New Zealand, Brazil, and Argentina—joins with the United States in arguing for freer agricultural trade. Through much of the Uruguay round, the negotiators at the forefront were the United States and the Cairns group on one side, faced by the European Community (EC) and Japan on the other.

"In the next phase of negotiations," Hayes continues, "the Europeans accepted the concept of tariffication, and the U.S. reduced its requests. You can imagine how it evolved from there." Even though final agreement was not reached on deadline, "the countries had been getting closer together, so they said, 'Let's still go ahead and finish it'."

One year later, in December 1991, GATT Director-General Arthur Dunkel of Switzerland issued a proposal to resolve the remaining agricultural disagreements. "People looked at the Dunkel proposal and said this forms a reasonable basis on which we can continue negotiations," says Hayes. "In saying that, they accepted large chunks of the text."

By springtime of this year, only three relatively minor areas of dispute remain to be settled. Hayes is optimistic: "I've been saying it for months, but everything does look positive. It looks like an agreement will be made." Agreement by the GATT negotiators isn't the end of the game, though. Each nation must approve the agreement. In the United States, Congress must vote either to affirm the treaty in its entirety, or to dismiss it. Inevitably, politics will be involved. But reliable data and critical judgment are important, too, and this is where the ISU economists enter the picture.

Analyzing the Issues

Three years ago, Congress contracted with ISU's Center for Agricultural and Rural Development (CARD), providing $750,000 as "money in aid of and assistance to the U.S. Trade Representative's office." CARD agreed to provide independent, bipartisan analyses of GATT proposals to the nation's shakers and movers.

Along with Hayes, who heads CARD's Trade and Agricultural Policy Division, Mike Helmar has been active in the GATT studies as international crop analyst. He says the center's extensive set of computer-based economic models have been critical to the process.

"Our models have gotten some measure of international respect because they have abilities to do both domestic and international analysis," says Helmar. Helmar says the models are more complete than those he has heard of at other universities, which tend to specialize in commodities important to a specific state. The USDA's Economic Research Service, he says, in some ways has more extensive models, but CARD's entire system is better integrated.

Hays and Helmar describe the GATT studies as providing two major kinds of information. Early on, background papers gave U.S. trade negotiators and others a common basis for talking about issues such as tariffication and export subsidies. Later, what Helmar calls "crunching numbers," or running scenarios, began in earnest.

"We've done several scenarios over the past couple of years," Helmar says. "One called the 50-33-33 scenario (referring to one U.S. proposal that GATT member nations cut back on various protective actions by certain percentages) got wide publicity. But going back to before that, in the mid and late 1980s, we did a number of scenarios on trade liberalization.

"They prepared us to look at specific policies in, say, the EC, the U.S, Japan, sometimes Canada--things that distorted free trade. We would tinker with the policies. Because of this, we became fairly familiar with what these policies were and how to work with them. When we started GATT runs, we dealt with the same policies, so we knew them well."

But how does a roomful of economists tinkering with computers translate into advice for the nation's leaders? Much of the action occurs in analysts' heads and in the bowels of computers; however, there's more than hocus-pocus at work.

U.S. crop analyst Debbie Stephens explains the role of CARD models. The theme is that how farmers and others respond to change is predictable, given a few basic assumptions. "Our modeling system is composed of interrelated sets of equations based on detailed historical data. Through the models, we try to mirror activity within the agricultural economy. In them, we tie the agri-

cultural economy into the overall economy through data on things like prices, inflation rates, exchange rates, and others.

"We maintain U.S. commodity models for wheat, feed grains, soybeans and soy products, cotton, rice, sugar, hay; also beef, pork, poultry, and dairy. Commodity models also are maintained for the world's major trading partners (excluding the United States) as a group, with submodels for individual countries.

"When we do scenarios," Stephens says, "we feed data into the systems in order to evaluate how the real-life agricultural system might react to changes in policy. . . We determine likely changes in agricultural production, consumption, farm and retail prices, farm income, trade, and costs to government."

The effects of policy change, however, will remain unclear unless there is a basis for comparison. "Each year we prepare a ten-year outlook for agriculture using the modeling system," says Stephens. "It's important to recognize that these are not 'predictions,' but are instead projections based on a set of assumptions that are critical to the findings. Our goal for the outlook is to provide a benchmark for policy analysis."

"I've been saying it for months, but everything does look positive," said Hayes. "It looks like an agreement will be made."

Interpreting Dunkel for the U.S.

The late-March report to Congress was dense with data relating the Dunkel proposal to possible impacts on U.S. and world agriculture. Changes in export competition, internal supports and market access were weighed and described. Necessary changes in government support programs were considered, and likely impacts on leading commodities were examined.

According to the economists' report, the United States is already close to compliance with the terms of the proposal. Few federal programs will require changes; governmental support for sugar farmers would be forced to scale back, and the milk support program would be reduced in 1998.

World and U.S. sale prices for feed grains, wheat, and rice are projected to increase under the Dunkel proposal, as compared to what they would have been otherwise. Corn prices are seen increasing by 78 percent by 1998; wheat, by 6 percent; and rice, by 3 percent. World trade is seen as declining during the period, but the United States is projected to pick up markets lost by the European Community.

The U.S. livestock sector—especially pork—would benefit from changes wrought by the Dunkel proposal. Pork exports in 1998 are projected as more than doubled from baseline levels. Pork prices increase by 6 percent. Broiler exports are seen to increase by more than 50 percent, with broiler prices up 6-7 percent. Beef exports are not expected to increase markedly because the baseline run already assumed growing access to the Japanese beef market.

Overall, the report noted, U.S. agriculture can be expected to benefit from the Dunkel proposal. Although both cash receipts and production expenses are expected to rise, the report projects an increase in net farm income of $0.8 billion.

The analysts were careful to underscore the limitations of the study. Most of them relate to the fact that some variables (for example, weather) cannot be accurately projected. They noted, too, that their interpretation of the Dunkel proposal was only one of many possible interpretations. Hayes adds, however, "The USDA has put out a report based on expert judgment. Ours was based on empirical analysis. Their report supports ours."

Whether this means the Dunkel proposal will win the day and GATT's Uruguay round finally will be resolved, who knows? In the United States, Hayes says, the fact that this is an election year could matter: "Either you get out of the way well before the election or you delay it until well afterwards."

If the new General Agreement on Tariffs and Trade is approved, Congress must enact legislation to implement its terms. That legislation might be complete in time to take effect in January 1993, Hayes says, but it's more likely to be January 1994.

Will the Uruguay round be remembered for opening up world agricultural markets? Says Helmar, "My own opinion. . .is that the United States is not going to gain anything near what we thought we were going to gain in the first place. Japan and the European Community are not going to lose very much." But, he adds, "agriculture just may be something we're willing to trade off in order to get agreement for the other sectors."

Make a Commitment to Save Iowa's Prairies

by Kristen Dill

Photo by Kristen Dill

Imagine a landscape full of yellow silphiums in late summer, abundant with big blue stem and Indian grass in the fall. Iowa was once a land of 30 million acres of prairie. Each week the prairies brought new flowers and new color to the land. The prairies were seemingly undisturbed for millennia, abundant with a diverse number of plants and creatures.

The invention of the plow broke the rich soil, and the native plants disappeared. The settlers learned that under the tough sod was rich, black soil, and these prairies soon became highly prized farmland. Many of the prairies that remain are overgrazed, unprotected and unmanaged.

"Most remnants face multiple problems that require human help if they are to survive. People must manage prairies because we have removed their natural defenses," said Cindy Hildebrand, a prairie restoration organizer in Iowa. "Prairie fires have stopped, which has allowed the invasion of woody plants. Aggressive foreign weeds and farm chemicals have sometimes drifted or drained onto adjacent remnants."

Hildebrand is one of many who is encouraging the preservation of Iowa's prairies. She said, "Our prairie remnants are shrinking and deteriorating, and we don't have forever to decide. We need a new state wide commitment to protect Iowa's unique heritage."

The need for a commitment to preserve prairies is what led me and another ISU student to use film as our medium for portraying the disappearing prairies. Aaron Scholz, a junior in English, and I received an ISU FOCUS Grant to make a documentary about the prairie. Any student who has an idea in arts, from design to dance to film, can work out a plan with a budget and submit it to the FOCUS Committee in the fall or spring.

The idea to use film, rather than video as the committee had suggested, was to keep the film in its true documentary style. Scholz said, "The film is a look at a changing country. We've tried to portray the prairie as it once was—vast, limitless, rolling hills. Film projects today are harder to find because of the expense, but in order to capture the subtleties of the prairie we needed the superior image that film delivers."

We have explored several aspects of the prairie problem by presenting brief shots of machinery and industrial development in contrast with beautiful sights an sounds of the prairie through the changing season. "We're trying to show the contrast between prairie that once was and its current endangered status," said Scholz.

We worked on the project for a year and presented the film, *Images of a Changing Landscape*, during the FOCUS Awards presentation, April 27. We also are trying to generate more student awareness by showing the film this spring with a panel discussion of prairie experts at ISU.

We need to be more aware of our actions. Our native tallgrass prairies are becoming extinct and soon all we will have left are small samples. Researchers or botan ist won't have anything left to study and observe.

Of the original 221,000 square miles of prairie throughout the Midwest, **only 1% is left.** Much of what remains today is overgrazed and lack of management has led to the depletion of native plants. Help protect our natural communities!

You can help protect Iowa's prairies by getting involved in one of these Iowa Action Groups:

- **Iowa Association of County Conservation Boards**
  Don Brazelton
  117 Main
  Elkhart, IA 50073
  515/367-2780
- **Iowa Association of Naturalists**
  Cele Burnett
  1214 Curtis Hall
  Ames, IA 50010
  515/232-2791
- **The Nature Conservancy**
  William W. Crews
  424 10th St. Suite 311
  Des Moines, IA 50309
  515/244-5044

From Top to Bottom, Extension Officials Agree Cuts will be Tough

by Marietta Nelson-Bittle

When Clarke County farmers return to their ripening fields this fall to repeat the hundreds-year-old harvest ritual, the familiar, lean figure of Alan Teel probably won't stand among the rows of shriveled corn stalks with them.

Teel, who serves as the county's extension director and consultant for area farmers, says he probably won't stay in his post—one he's held for the past 18 years—if a proposed reorganization of Iowa State University Extension Service is carried out. His chair in the local extension office on Osceola's town square will be filled by someone else.

Teel said the proposed changes mean adding additional duties to what is already a full-time job. But not everyone is as pessimistic as Teel. In fact, some believe that the reorganization is needed to help bring extension in line with changes that have occurred in Iowa. All agree that extension will be significantly different as a result of the changes.

In the meantime, both sides say the reorganization for extension employees, an extremely loyal lot, will be painful.

For now, extension's outposts in each of Iowa's 99 counties have one person with agricultural expertise, a second who deals with home economics and a third who leads youth programs. This structure varies from county to county. Area specialists, who provide extra knowledge and support to the county staff on farm, home economics and youth issues, work from area offices in each of Iowa's seven extension districts. County councils, made up of local people, supervise each local office; the area offices steer the operations of the extension districts; ISU's Office of Extension is the umbrella organization for the system. Extension is funded by taxes from various levels of government.

The reorganization calls for the county extension agent to take on more duties. No longer will each county have a 4-H and youth leader, a home economist and an agricultural expert, or even a variation of this staff. Forty-four offices will have a county director with agricultural expertise, 28 will have a director specializing in youth and the remaining 28 directors will concentrate on family issues. The directors total 100 because Pottawattamie County will have two, one for the west part of the county and one for the east. The rest of the county staff, except for an office assistant, will be nonexistent. County directors will be responsible for administration, community relations and giving out information in their area of expertise.

"The simple fact is that we are experiencing severe financial pressure," Anderson said.

The county director will, Teel says, have to be all things to all people.

But the redefinition of the county director's job is just a narrow slice of the reorganization pie.

The plan, submitted to Iowa State President Martin Jischke in January, proposes to cut extension's full-time field staff by 10 percent, from 283 to 254. The seven area offices will be maintained. But the area specialists will be moved into the county offices. Iowa's extension districts will be redrawn to align with Iowa's community colleges to promote sharing program and expertise between the two. Cuts are also planned at the administration level of extensionthough they haven't been worked out yet.

Robert Anderson, vice provost for ISU extension, cites financial problems as the reason for the cuts. "The simple fact is that we are experiencing severe financial pressure," he said. "The pressure is not new; it's been here for at least six years."

Anderson says there will be fewer people in the field, but how that all plays out isn't known. It may mean

fewer meetings; it might take longer for extension staff to respond and go to the farm site. There will be more specialists, but fewer people dedicated to serving just one county.

"We hope to be able to find synergies — like one plus one equals three — which means that if we work together we should be able to meet the needs," Anderson says. Cooperating with the community colleges should help extension meet the needs, he added.

"We hope to be logical and rational when making those decisions," he says. "If we decide we're going to have six dairy specialists in the northeast part of the state, they won't have as big an area to cover as those in the south because there are a lot of dairy farmers up north. It's like a legislative districting problem," Anderson says.

While Clarke County Extension Director Teel doesn't hold a stringent "why fix it if it ain't broke" attitude toward reorganization, he said he doesn't believe the restructuring plan will be the best for extension in the long run.

Plans to heap more duties on to the county director will leave that person with "too much to do and not enough time," he says. And plans to move the area specialists into the county offices will deprive some extension customers of the advice or information they need. In the present system, area specialists feel a responsibility to the people of the counties in their area. But, Teel says, if they're moved into the county offices they might narrow their scope of responsibility to that county simply because they are closer in proximity to the people there.

"If I'm a 4-H person and a group in the next county over wants me to come and talk, but I've also got a big alfalfa epidemic in my county, I don't handle the 4-H problem. I don't have time," he says. "There will be people to call, but they won't be able to get to you for a couple of days."

For the moment, Teel says, the most devastating effect of the restructuring is the extension's staff sinking morale. The staff has been "on hold" since August 1991, when the first restructuring plan was released. Many extension people rejected that plan. Vice Provost Anderson took it back for revision. A second plan came out in January 1992.

"I'm not sure how logical the system is going to be," said Teel. "Is it logical to have everybody on hold since August of last year? Many people wonder whether they're going to have a jobs, and if they are, where they'll be."

Much of the program planning for extension's 1992-1993 year beginning Oct. 1 has been put on hold. Teel says staff members don't know what jobs they'll have, if any. And internal fighting in some offices has led to emotional problems for some employees.

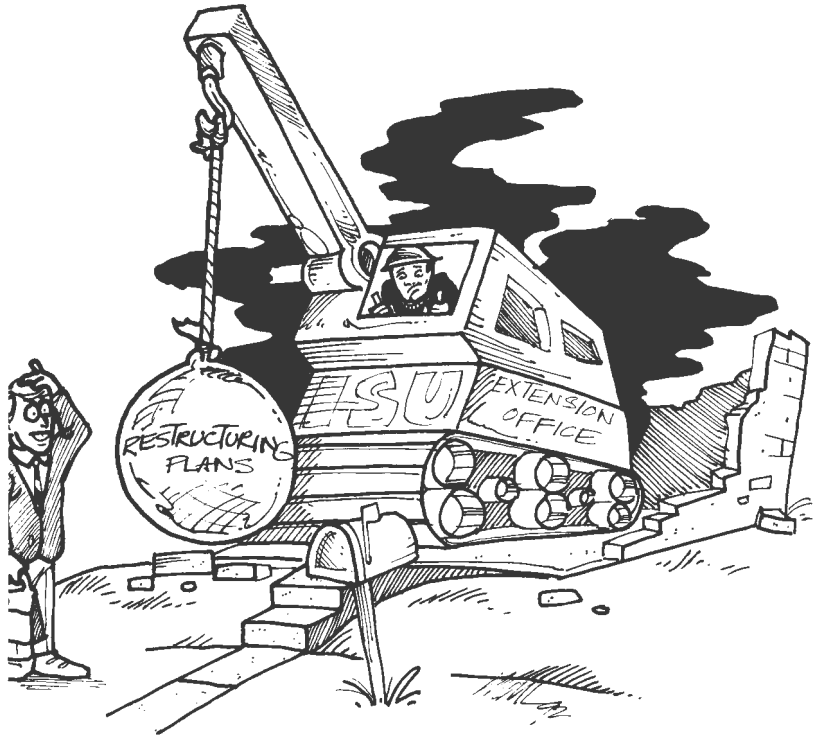
"People are fighting over the one job left," he said. "This is being brought about by the way it (reorganization) is being handled. Everyone is hanging in the balance."

This should all be over by October. However, Teel asks, "How do you plan to work together again? You don't know what you're going to do, especially if you're 40 or 50 years old and you're not as employable as you used to be when you were 21 or 22."

Ray Oelkers, an area 4-H specialist who works from the north-central district office in Mason City, knows what he'll be doing when the shake-up is over. He says he'll move his family onto his new post if he has to. Oelkers, like Teel, is a lifer in the extension system. But, unlike Teel, he looks favorably on restructuring.

"I understand that we can't continue to do business as we always have because the resources just aren't available. It allows us an opportunity to evaluate what our function is and how we can best meet the needs of the citizens of Iowa," he says.

While he doesn't want to move, Oelkers says he and his family have overcome their initial resistance. "It's



time to get on with it. It's going to be another adventure for us."

Oelkers answered extension's call 25 years ago. "I feel strongly that extension's missions is to help people grow and reach their desired potential," he said. "And any time you're a people person, you can't help but feel that. I think there's a strong loyalty and dedication in extension's staff because of the nature of our work. It is not an eight-to-five job. We work nights, some holidays. I think this is a common thing throughout the state."

Because of this type of commitment, Oelkers says, the restructuring has been and will be difficult. People in extension fear the unknown right now, they aren't sure how they'll fit in. "But I sincerely believe when the dust settles and people find out the jobs there'll be and how fit, ... we'll have the potential to meet a wider group of clientele."

Every county will still have an extension office, so Oelkers says the staff will still work directly with the local people to identify their needs. Then these people can be directed to the right information sources.

People may have to wait a bit longer for some services, he says, but "if we're going to continue to be viable organization and meet the needs of people, we can't continue to deliver programs in the same traditional way.

"There won't always be somebody sitting in the office just to be available for a drop-in visit. They'll have to call for an appointment," he says.

And staff should be planning for next year, even if they know they will move, he says. "I don't necessarily feel that we can't plan just because we aren't sure if we're going to be here. We need to facilitate planning and then leave it for the new people to show what the local people need."

In the past, extension seems to have a good grasp of what extension's clients — the local people — wanted.

Paul Lasley, an ISU sociology professor, has conducted polls of rural Iowans on a variety of subjects, including their feeling about extension, for the past 10 years. In a 1991 poll, Lasley found that 97 percent of those polled had at least one contact with extension during the past year; 67 percent said extension responded to the needs of rural Iowa. The findings show that, "extension is very much an integral part of farming, and that it is highly used. That's not, however, to say there was complete satisfaction. Only about seven out of 10 evaluated (extension's) the information as good or very good," he says.

Lasley agrees that people are an integral part of extension and its mission. He says the staff's commitment to working with people at the local level has brought Iowa's extension program into national prominence.

"The survey shows that extension staff are valued people," he said. "The staff has been dealing with financial hardship for a decade now and yet, evaluations show that the staff has made a difference, has risen to the cause."

The restructuring is bound to be painful for the people of extension, Lasley says. "This proposal to restructure is an attempt to maintain a local presence at the county level and continue to meet the needs of a very diverse clientele. It is fair to say that down sizing is a painful process. The restructuring of the staff certainly is going to impact on the morale of the staff."

Back in the Clarke County Extension Office on Osceola's town square Alan Teel stretches back in his chair and folds his hands behind his head. On the wall behind him hangs a hook rug of the 4-H four leaf clover his son, Tim, made for a 4-H project. A picture inscribed with the words of Jonathan Swift hangs next to the rug. "Whoever makes two ears of corn, or two blades of grass to grow where only one grew before deserves better of mankind, and does more essential service to his country than the whole race of politicians put together." The statement says a lot about Teel's feeling toward the reorganization. He's afraid extension is moving away from the type of agriculture that Swift admires. But, for now, he'll stick around to watch the outcome of the reorganization. People like Teel aren't swift to make a move. People who move swiftly don't keep the same job for 18 years. Watching and waiting is more their style.

Editor's Note: Job descriptions for the restructuring were to come out April 15. Due to publication deadlines they weren't able to be included in this story.

Soynuts Provide Alternative Soybean Markets

by Doug Beane

When Paul and Joyce Lee started packaging soynuts on the old oak table in the front room of their house in 1985, they had no idea that in a few years they would form Lee Seed Co. Inc., and ship hundreds of soynuts packagesevery day to hungry snackers across the United States.

The Lee family has made a business of packaging and selling soybeans for human consumption. Joyce Lee said the whole family has worked together to make and market the nutritious soynuts from the Lee family farm in rural Inwood, Iowa.

Lee said soynuts are made from a "food group type of soybeans" which are also used in making tofu and other soybean products that are consumed directly by humans. She said their family came upon the unique idea of soynuts after her husband started raising the special edible soybeans which were shipped to California and processed into tofu.

"We had the soybeans and we knew they were good for you, so we started experimenting in our kitchen," Lee said.

The Lee's started by producing two basic types of soynuts, confection and roasted. Confection covered soynuts are covered with chocolate, yogurt and other sweet flavors. Roasted soynuts are roasted and seasoned like peanuts.

Lee said they took their soynuts to a trade show for their first public appearance, and "everybody just loved what we had."

She said they introduced the soynuts to the market at a time when people were concerned about eating healthy foods and lowering cholesterol. Because soynuts contain twice the protein of meat, all of the essential amino acids, nearly twice the fiber of wheat, no cholesterol and very little fat, people were interested in them. She said, "The first years we were growing phenomenally just like holding on to the tail of a comet."

Since their humble beginnings seven years ago, the Lee's have moved their soynut production facilities from the old oak table in their house to three buildings on their farm. They now process 60,000 pounds of soybeans into soynuts annually. However, Lee said all of the soynuts are still hand packed.

Although the Lee's hire two people to travel to trade shows around the Midwest and sell soynuts, Lee said that most of the soybeans are sold through their mail order business. They tried selling the soynuts from several grocery stores, but with limited success. Joyce said this is partially because in the rural Midwest many people think that soybeans are good for only cattle and hog feed. However, she said that in the cities soynuts are more popular because people compare them to candy or nuts.

The Lee's have added several different products to their line since they started. For instance, Lee said they now make 12 flavors of soynuts, including butter toffee, carob, cherry, cinnamon, yogurt, chocolate, barbecue, Cajun, onion and garlic, lightly salted, unsalted and nacho. She said they also sell "soynut butter," which is eaten like peanut butter, but it is made from soybeans.

Lee said they will continue to experiment with different flavors and packages, but the business will probably not expand. "We don't want to get any bigger right now," she said, "It is great to be able to run a small business like this where everyone is not a number."

ISU Dairy Farm Benefits Students and Farmers

By Rachelle Fossum

Startled awake by his alarm clock, Duane Kleve glances at it. To his dismay, it is 12:00 a.m., and time for him to begin his 12-hour work day. This is the same routine he has followed seven days a week for the past two years when he started working at the Iowa State Dairy Farm.

At about 12:30 a.m., Kleve arrives at the dairy farm and resumes his position as head milker. Kleve and another hired hand milk 140 dairy cows twice daily from 12:30-4:30 a.m. and again from 12:30-4:30 p.m.

Since the farm became an addition to ISU in the early 1900s, it has been a well-kept secret. After surveying ten students, only two knew of the dairy farm's operations and existence. A female senior in the College of Business said, "I guess this is an agricultural college [university], but I didn't know the university owned a farm."

Iowa State students aren't the only ones unaware of the dairy farm and its educational benefits. Many farmers throughout the country, even the state of Iowa, don't fully realize how they could benefit from the knowledge gained at the dairy farm. Dr. Wunder, an ISU animals science professor, said, "The dairy farm is overshadowed by other universities in the Midwest. Iowa is known for corn, not for cows."

"The dairy farm is overshadowed by other universities in the Midwest," said Wunder. "Iowa is known for corn, not for cows."

Educationally, much is learned at the Iowa State Dairy Farm, said Wunder. The farm is used in many animal science classes for different purposes.

In Animals Science 235, students learn about programs for improving dairy cattle. Programs, such as the Dairy Herd Improvement Association (DHIA), record each cow's milk production and compare or rate the cow according to other cows in the herd and with other herds in the United States.

Dairy Herd Improvement Registration (DHIR) is another program that is used to merchandize animals. Each cow has a registration number and records of milk, fat and protein produced. These records give confidence to a buyer.

Animal Science 235 also teaches students how to evaluate cattle. The cow's individual body parts are rated from zero, which is the worst, to 50, which is the best. "This gives us guidance on physical-type traits we want in a cow to increase production and longevity. The better the scores, the better a cow is, and everyone needs good cows to be competitive in this business," said Wunder.

Another course that takes advantage of the dairy farm is Animal Science 436 in which students practice herd health and financial management techniques. They learn how to give medication properly through injections and inoculations and other health procedures such as dehorning and deworming.

Students also have mock financial responsibilities of a dairy farm, said Wunder. They monitor the financial position of the ISU Dairy Farm monthly, detecting and compensating management problems.

Veterinarian students also benefit from the animals at the research farm, said Wunder. They conduct pregnancy and disease testings on the animals. "Veterinarian students also perform research projects," he said. "Dairy research is a major facet of animal science education."

Much research has already been completed and found to be conclusive at the farm. Past projects have included

the research of a disease found in young milking cattle known as ketosis. Milking cattle with ketosis have high levels of ketones in the bloodstream, causing an improper breakdown of stored body fats which product energy. Research has located different feed sources that will aid the breakdown of these body fats.

Another project involves feeding various animals protein sources such as fish and animal proteins to evaluate the increase of the level of protein in the milk to optimize feed costs over income.

"The research conducted is not only used to aid the animals, [but] it is also used to aid consumers and the environment," said Dennis Crawley, Iowa State Dairy Farm superintendent.

A recent project under involves feeding various fat sources in feed rations to evaluate if the fat sources change the composition of the milk. "Lower fat has become a major issue with consumers," said Crawley. "We also need to benefit consumers' needs because they predict our price."

For environmental reasons, studies are promoting the use of more forage, grass and alfalfa to replace corn and beans for protein in feed rations. Replacing corn and beans with forage reduces erosion.

Another environmental factor is the exclusion of fertilizers and other harmful chemicals with the use of natural forage. A plus of not using fertilizers and chemical is "keeping the water uncontaminated and pure," said Crawley.

Small farmers can benefit from the daily research at the Iowa State Dairy farm, said Wunder, while milk corporations can design better dairy products from the knowledge gained. Students also can take advantage of the knowledge acquired at the farm through courses offered. "In the long run, the more people we train," he said, "the more it helps everybody."

Gustafson is Role Model for Female Students

By Amy Peters

An increasing number of women stepping into leadership roles in the agricultural industry are making an impact today and clearing the way for other women to follow.

"I feel I have been able to be one of many women who can be role models," said Peg Armstrong-Gustafson, an Iowa State University graduate who serves as Pioneer Hi-Bred International's marketing director for corn for the United States and Canada.

She said her rural background in northeast Iowa helped peak her interest in the field of agriculture. "I grew up on a farm and really truly believe in the fundmentals of agriculture and the quality of life," she said. "And most importantly, realized how vital it is to the world economy."

Armstrong-Gustafson came to ISU in 1975 after graduating from high school a year early. She participated in a variety of campus activities, including Veishea Central and Homecoming committees and the Student Alumni Association.

She took some time off from college to hold the offices of State FFA reporter and president and National FFA vice president. In 1979, she was appointed by President Jimmy Carter to serve as a Vocational Education Committee member.

After graduating in 1981 with a degree in animal science, Armstrong-Gustafson was employed as a produanager for sorghum and alfalfa for Pfizer Genetics in St. Louis, Mo. When Dekalb-Pfizer was formed in 1982, she moved to Dekalb, Ill. and became sales operations manager for the United States.

She returned to Iowa and joined Pioneer in 1983 where she currently works with product positioning, facilitating new product development, pricing, promotion and national advertising campaigns. She said her most critical duty is the strategic planning of the product. "I really find it exciting to forecast what the future of agriculture will be and what the customer's needs are," she said, "and bring those products to meet those customer needs."

She said that she is excited to see more women taking on leadership roles and having the "skills and courage to step forward."

While she said that some people involved in the agricultural industry are still suffering from the Neanderthal era, the industry is full of men that are visionaries. This why agriculture is further ahead of other industries concerning sex discrimination. She said they know the future needs bright, young people and they don't care if they are women. One reason she said agriculture is open to women holding leadership positions could be because the farm wife and husband have always been involved in a partnership in their business.

Armstrong-Gustafson credits her success to two main factors. "I firmly believe I chose one of the best places in the country and in the world to go to school." She also said her leadership training from her background in vocational agriculture and FFA helped her get her foot in the door.

Her advice to students interested in an agricultural career is to be aware of what is going on around them because agriculture is a global industry. Agriculture means more than just an understanding of the production end. Graduates need to have a more broad-based education that includes strong business, decision-making and communication skills. "People who don't believe that haven't tried to get a job lately," she said.

Enthusiasm, energy and an optimistic outlook at what agriculture can be, said Armstrong-Gustafson, are critical elements graduates must possess to become successful in this area.

"You can keep looking positively at the world if you can rip off some of the negative blinders," she said. "There has never been a day when I haven't felt there to be a future for agriculture."

Undergraduate Clubs

Ag Biochemistry Club—Open to anyone interested in biochemistry. Activities include social events, a Veishea display, and speakers at monthly meetings. Contact Basil Nikolau/294-9423

Ag Business Club—Open to all agriculture majors but especially of interest to ag business majors. The club sponsors Ag Career Days and regular club meetings feature guest speakers. Contact Ron Deiter/294-5346.

Ag Education Club—Professional leadership development organization to promote individual and group decision-making and cooperation among agriculture educators. Contact Robert Martin/294-0826.

Ag Studies/Farm Op Club—Invlved in monthly meetings, including spring and fall field trips, picnics, and an annual banquet. The club sponsors a Veishea food stand and display. Contact Tom Baas/294-6924.

Ag Mechanization Club—Promotes an increased understanding of agricultural mechanization, leadership opportunities and fellowship among members. Contact Victor Bekkum/294-5145.

Agronomy Club—Promotes education and fellowship among students, faculty and others interested persons through trips, socials and speakers. Contact Doug Steinkamp/294-9204.

Alpha Zeta—An honorary club dedicated to scholarship, character and leadership in agriculture. Activities include mock interviews, service projects and trips. Contact Kenneth Larson/294 3281.

Block and Bridle—The club organizes and coordinates activities that provide students the opportunity to practice leadership abilities. Contact Brad Skaar / 294-2242.

Dairy Science Club—Promotes fellowship and leadership among students interested in the dairy industry. Contact Dawn Hovey, president/292-5856.

Entomology Club—Provides students the opportunity to interact with one another on a personal and/or academic level. Contact Wayne Rowley/ 294-1573.

Fisheries and Wildlife Biology Club—Encourages concern for and understanding of wildlife resources; provides for interaction among students. Contact Animal Ecology Depart. /294-6148.

Food Science and Human Nutrition—Promotes interest in the food industry and provides educational, social and recreational activities to its members. Contact Deland Myers/294-5216.

Forestry—Creates social interaction among students and develops professional interest in modern forestry topics. Contact Joe Colletti/294-4912.

Horticulture—People with a common interest in plants gather in a social atmosphere to participate in educational activities related to horticulture. Contact the Horticulture Dept./294-0021.

International Ag Club—Open to international ag majors and others interested. Activities include annual bake sale, Veishea display and monthly meetings. Contact Julie Tritz, president/294-3463.

ISU Furharvesters' Club—Concerned with promoting the wise use of fur-bearing animals through trapping. Activities include field trips, giving trapping demonstrations and sponsoring guest speakers. Contact Wayne Rowley/ 294-1573.

Meat Science Group—Stimulates interest and promotes academic excellence in meat science. Hosts and assists in the American Meat Institute Sausage Short Courses. Contact Dept. of Animal Science/294-1548.

National Agri-Marketing Association (NAMA)–Provides opportunity to contact professionals, discover internship opportunities, explore careers and gain marketable experience. Contact Robert Martin/294-0896.

Pre-Vet Club—Monthly meetings include speakers who give members a chance to learn about the field of veterinary medicine. Activities include hayrack ride, vet school tours, picnics, Veishea and Halloween pet costume party. Contact Eric Zachary/296-2362.

Public Service and Administration—Exists to promote information on careers and opportunities in PSA as it relates to agriculture and rural area. Contact Eric Hoiberg/294-1922.

Sigma Alpha—Provides opportunity for women to share career and academic interests relating to agricultural fields. Contact Ken Larson/294-7850.

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